

Patent claims

- 1., A method for disposal of road user protection devices, in particular
5 occupant restraint systems such as belt tensioners, airbags and pedestrian protection systems, with at least one pyrotechnic igniter, in which a disposal firing order is provided to the igniter (3.1.1, 3.2.1) or to an intermediate control device (2) and in which the igniter (3.1.1, 3.2.1) is fired,
characterized in that
- 10 the disposal firing orders to the igniter / s (3.1.1, 3.2.1) or to an intermediate control device (2) is effected or transmitted in such manner that the transmission / initiation of the disposal firing orders and/or the transmission of the disposal firing order which is initiated from outside is effected on at least two separated /different interfaces (6.1, 6.2, 4.1, 4.2, 4.3).
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- 2., A method for disposal of road user protection devices, in particular over-roll systems, with at least one pyrotechnic igniter, in which a disposal firing order is provided to the igniter (3.1.1, 3.2.1) or to an intermediate control device (2) and in which the igniter (3.1.1, 3.2.1) is fired,
20 **characterized in that**
- the disposal firing orders to the igniter / s (3.1.1, 3.2.1) or to an intermediate control device (2) is effected or transmitted in such manner that the transmission / initiation of the disposal firing orders and/or the transmission of the disposal firing order which is initiated from outside is effected on at least
25 two separated /different interfaces (6.1, 6.2, 4.1, 4.2, 4.3).
- 3., A method for disposal of road user protection devices according to claim 1 and 2, characterized in that the transmission and decoding, respectively, and forwarding of the disposal firing order initiated from outside
30 is effected in the control device (2) by means of at least two separated / different units for signal decoding (7.1, 7.2) as well as by at least two separated / different signal paths / interface paths / interfaces (4.1, 4.2, 4.1.1, 4.2.1, 4.2.2, 4.1.2).

4., A method for disposal of road user protection devices according to claim 1 and 2, characterized in that a concurrence in time of the disposal firing orders at the at least two separated / one-wire, two-wire or multi-wire interfaces (6.1, 6.2) and a concurrence / overlapping in time of the interfaces (4.1, 4.2) is necessary for a certain defined time to result in a simultaneous closing of the power switch / es LOW / of the interface / s L (4.1) and of the power switch / es HIGH / of the interface / s H (4.2).

5., A method for disposal of road user protection devices according to one or more of claims 1 to 4, characterized in that the protocol or the protocol contents of the corresponding interface (6.1, 6.2), which is to be used for effecting the disposal firing, in particular in case for example the interface (9.1) is combined with the interface (6.2) is to be preferably chosen such that an order, which is supposed to initiate a disposal firing, is defined on the interface (6.2) in such manner as it is not provided for in the defined protocol scale of the assistant sensor (9) or on its interface (9.1).

6., A method for disposal of road user protection devices according to one or more of claims 1 to 4, characterized in that the protocol or the protocol contents of the corresponding interface (6.1, 6.2), which is to be used for effecting the disposal firing, in particular in case for example the interface (9.1) is combined with the interface (6.2) is to be preferably chosen such that an order, which is supposed to initiate a disposal firing, in particular if the protocol depth is relatively restricted, is defined on the interface (6.2) in such manner as it corresponds in the defined protocol scale of the assistant sensor (9) or on its interface (9.1) to an activation request information of the assistant sensor (9).

7., A method suitable for disposal of road user protection devices, in particular occupant restraint systems such as belt tensioners, airbags and pedestrian protection systems, with at least one pyrotechnic igniter, in which a disposal firing order is provided to the igniter (3.1.1, 3.2.1) or to an intermediate control device (2) and in which the igniter (3.1.1, 3.2.1) can be fired,

characterized in that

the transfer / transmission of the disposal firing orders to the igniter / s (3.1.1, 3.2.1) or to an intermediate control device (2) is effected such that the transmission / initiation of the disposal firing orders and/or the transmission of
5 the disposal firing order which is initiated from outside is effected on at least two separated /different interfaces (6.1, 6.2, 4.1, 4.2, 4.3).

8., A method suitable for disposal of road user protection devices, in particular over-roll systems, with at least one pyrotechnic igniter, in which a
10 disposal firing order can be provided to the igniter (3.1.1, 3.2.1) or to an intermediate control device (2) and the igniter (3.1.1, 3.2.1) can be fired,

characterized in that

the transfer / transmission of the disposal firing orders to the igniter / s (3.1.1, 3.2.1) or to an intermediate control device (2) is effected such that the
15 transmission / initiation of the disposal firing orders and/or the transmission of the disposal firing order which is initiated from outside is effected on at least two separated /different interfaces (6.1, 6.2, 4.1, 4.2, 4.3).

9., A method for disposal of road user protection devices according to
20 claim 7 and 8, characterized in that the transmission and decoding, respectively, and forwarding of the disposal firing order initiated from outside is effected in the control device (2) by means of at least two separated / different units for signal decoding (7.1, 7.2) as well as by at least two separated / different signal paths / interface paths / interfaces (4.1, 4.2, 4.1.1,
25 4.2.1, 4.2.2, 4.1.2).

10., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the one or more interface/s (6.1, 6.2) is a CAN-bus-interface.

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11., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the one or more interface/s (6.1, 6.2) is a VAN-bus-interface.

12., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the one or more interface/s (6.1, 6.2) is a PAS-interface.

5 13., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the one or more interface/s (6.1, 6.2) is a K-interface.

14., A method for disposal of road user protection devices according to
10 claim 7 to 9, characterized in that one interface (6.1, 6.2) is an energy supply line.

15., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that one interface (6.1, 6.2) is an energy supply
15 line with an up-modulated information.

16., A method for disposal of road user protection devices according to one or more of claims 7 to 15, characterized in that subject to the respective interface this is a one-wire, two-wire or multi-wire interface.

20 17., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the unit for signal decoding (7.2) and the unit for level conversion (7.2), respectively, preferably is realised as an ASIC or as a monitoring unit in an ASIC, or as a μ P.

25 18., A method for disposal of road user protection devices according to claim 7 to 9, characterized in that the unit for signal decoding (7.1) and the unit for level conversion (7.1), respectively, preferably is realised as an ASIC or as a monitoring unit in an ASIC, or as a μ P.

30 19., A method for disposal of road user protection devices according to claim 17 and 18, characterized in that the units for signal decoding (7.1, 7.2) and the units for level conversion (7.2), respectively, can have activation-capable algorithms.